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EPSON RESEARCH AND DEVELOPMENT INC INTELLECTUAL PROPERTY DEPT 150 RIVER OAKS PARKWAY, SUITE 225 SAN JOSE, CA 95134			KANG, ROBERT N	
			ART UNIT	PAPER NUMBER
			2622	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/017,087	YOKOYAMA ET AL.
	Examiner Robert N. Kang	Art Unit 2622 <i>RNK</i>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 12/13/01
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-45 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-45 is/are rejected.
 7) Claim(s) 1,30 and 43 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 13 December 2001 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

2. Claims 1, 30, and 43 are objected to because of the following informalities: The term "graphic" and "image" both describe a spatial intensity map along a matrix of positions; as commonly referred to as an "image". Specification gives no distinguishing feature to differentiate between a graphic and an image, for example, a graphic is distinctly differentiated from an image if it is stored in a freely editable vectorized form. Examiner suggests either the clarification of these two "objects" (commonly known in the industry as "layers") or that the term "graphic" be removed from the claims. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 3, 4, 33, and 34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter

which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claims 3, 33 and 4, 34, while it is stated in the specification that the term “predetermined colors” pertains to the number of ink or other coloring materials available in the printer, it is unclear what the claimed invention regards as a distinct color in the recited claim “when the number of colors used in said source data is greater than a predetermined number.” Because there are very few 8-color color spaces, the examiner assumes the applicant intends for the term “color” to refer to both primary and various mixtures of primary coloring materials. As stated in the specification, even a single coloring material printer, such as a black-only printer, is capable of printing 256 shades of grey by using various halftones and dither patterns. Therefore, any color image in the CMYK color space is capable of 24-bit color, or 16.7 million colors. The specification does not disclose any method for determining the number of distinct colors used in a source image. This lack of specificity is particularly disconcerting regarding claim 4, which requires a reduction in number of colors if the source image exceeds a predetermined number of colors, “wherein said predetermined number is number eight.” The examiner’s interpretation indicates that all image intensities are reduced to a 3-bit number which is capable of representing 8 levels of gray. This does not make any practical sense, yet the alternative, wherein “colors” are defined by coloring materials such as inks or toners, makes yet even less sense. Further explanation is required with regards to these four claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-5, 14-30, 32-35, and 40-45 are rejected under 35 U.S.C. 102(b) as being anticipated by Adobe Systems, Inc.

The reference U pertains to the user manual for Adobe Systems Photoshop 7.0, released in 2002. However, the examiner contends that all necessary features and functions as cited in this office action were implemented in Adobe Photoshop version 5.5, released in February 1999. A brief summary of the development history and version changes regarding Adobe Photoshop can be found at http://en.wikipedia.org/wiki/Adobe_Photoshop.

First, regarding the term “logo data”, a logo is encompassed within the generic category of an image. Therefore, for the remainder of this office action, the word “image” is considered to be analogous to “logo” and is used in its place.

With regards to claim 1, limitation (a), the “File>Open” or “File>Import” menus and functions open or scan an image file of various file formats known in the industry, these images contain intensity and spatial data to represent visual symbols, pictures, or text. Photoshop 5.5 is also capable of displaying and processing various color spaces, including RGB and CMYK. Therefore, the limitation “obtaining source data including at

least one of an image, object, a graphic object, and a text object, said source having at least two colors" is met.

With regards to claim 1, limitation (b), "a parameter input step for enabling the inputting of parameters for processing said source data, said parameters including a color selection parameter for converting color in said source data to a predefined color," Adobe Systems discloses in reference U, document 1_8_14_0.html, a series of steps including "Open replace color dialog (Image>Adjustments>Replace Color...)." This qualifies as "a parameter input step for enabling the inputting of parameters." Steps 3 and 4 of the disclosed method instruct the user to "click in the image or in the preview box to select areas (colors) exposed by the mask. Adjust the tolerance of the mask by dragging the Fuzziness slider or entering a value. This controls the degree to which related colors are included in the selection." Thus this parameter qualifies as a "color selection parameter." Regarding the actual color replacement, step 5 of the described method instructs the user to "drag the hue, saturation, and lightness sliders (or enter values in the text boxes) to change the color of the selected areas."

With regards to claim 1, limitation (c), the "data processing step for processing said source data according to said input parameters" occurs real-time through the processor of the host machine on which the Photoshop application is running. This is well known in the art and further discussion requires delving into Application to Operating System to Hardware interactions, a topic well beyond the scope of this office action.

With regards to claim 1, limitation (d), the "File>Save" or "File>Print" functions, which output the image to a memory location or to a printer communicably attached and properly configured with the host pc, both qualify as "an output step for outputting the processed source data as logo data after applying said data processing step (c)."

Regarding claim 30, examiner asserts that the method disclosed by Adobe Systems inherently discloses a system utilizing the said method. Therefore, the first limitation of claim 30 is congruous with claim 1 limitation a, the third limitation of claim 30 is congruous with claim 1 limitation b, the fourth limitation of claim 30 is congruous with claim 1 limitation c, and the fifth limitation of claim 30 is congruous with claim 1 limitation d. The second limitation, "a source data display for displaying said source data" is a necessary component of a system for running Adobe Photoshop, generally comprised of a computer monitor or monitors.

Regarding claim 2, Adobe Photoshop is capable of producing full color prints through use of the File>Print command and thus is only limited by the hardware of the attached printer. Therefore with regards to a color printing system, it is intrinsic that a "printer having at least two printable colors" is communicably attached to the host PC.

With regards to limitation (b1), the Replace Color menu as disclosed above includes a preview window which allows the user to view the before and after results of the image processing real-time; the image itself is also displayed before the modification and modified on screen outside of the preview window. Therefore, the software and

method as disclosed by Adobe systems includes “a source data display step for displaying an image representation of said source data.”

In regards to limitation (b2), document 1_21_11_1.html in reference U discloses a method for “freely selecting one of said printable colors, such that a color in said source data is converted to the selected printable color.” In step 2 of the disclosed method, the menu Image>Mode>Duotone allows the user to “select monotone, duotone, tritone, or quadtone” for the number of coloring materials available on the printer. Step 5 states “to specify ink colors, click the color box for an ink.” The duotone function then replaces a given color or intensity level selected by step 6 “adjust[ing] the duotone curve for each ink color” with the specified color from the two, three, or four color printer. Therefore the limitations of claim 2, (b2) are expressly anticipated by Adobe Systems Photoshop 5.5.

With regards to claims 3 and 33 document 1_21_11_1.html in reference U discloses in step 1 that a duotone must be converted to greyscale “by choosing Image>Mode>Greyscale. Only 8 bit greyscale images can be converted to duotones.” Therefore, the method possesses a “color reduction step for generating first process data by reducing the number of colors in said source data to a specific smaller number when the number of colors used in said source data is greater than a predetermined number.” The Adobe Systems duotone method uses 256 as this predetermined number; when the image is represented in a color space which is not greyscale, thus exceeding 256 levels of grey, it is converted to a smaller number. This downconversion

is represented immediately on the image itself as displayed on the user display, whereupon the remaining steps as disclosed in the rejection for claim 2 are carried out. Therefore the stated method “further includes a step for displaying an image of the first process data and a color in said first process data is converted to the printable color selected by the color selection step (b2).” This method of utilizing built in Photoshop functions not only anticipates the pending method as disclosed by the applicant in claim 3 but also the logo generating system as disclosed by claim 33.

In regards to claims 5 and 35, the conversion from RGB or CMYK to greyscale as well known in the art involves averaging the intensity values of each color for each pixel in a given image, thus resulting in an 8-bit, 256 level greyscale image. Thus the “reduction step further reduces the number of colors using at least one of a dithering process, an error diffusion process, and a simple color reduction process that replaces a group of color hues by a corresponding and predefined color.” This averaging operation qualifies as a simple color reduction process, replacing various color hues with a predefined grey level intensity. This method of utilizing built in Photoshop functions not only anticipates the pending method as disclosed by the applicant in claim 5 but also the logo generating system as disclosed by claim 35.

With regards to claim 14, document 1_21_2_0.html in reference U discloses a print options setup menu which can be reached through File>Print with Preview. These

printer specific options allow for color or black and white printing, positioning and scaling, halftone screens, and color management specific to the printer. Therefore “parameter input step b further enables inputting printer-specific-data corresponding to functions of said printer for creating the logo data.” Furthermore, because of the real-time processing architecture of Photoshop, the step (c), “processing said source data according to printer specific data” actually occurs immediately before the print command (d), although the processing is seamless and apparently simultaneous to step (d) to the user.

Regarding claims 15 and 40, document 1_14_1_0.html discloses a method identical but different in name to the “object” differentiation as disclosed by the application. “Layers allow you to work on one element of an image without disturbing the others. Think of layers as sheets of acetate stacked one on top of the other. Where there is no image on a layer, you can see through to the layers below. You can change the composition of an image by changing the order and attributes of layers. In addition, special features such as adjustment layers, fill layers, and layer styles let you create sophisticated effects.” The applicant’s own disclosure on page 31, lines 29-30 uses terminology such as “bring to front” and “send to back” which are well known within the image editing community as being specific to layers rather than objects. Therefore the examiner asserts that layers are theoretically and functionally identical to the recited “objects” in the applicant’s disclosure. Therefore by selecting a given layer as described by document 1_14_4_1.html and applying the replace color method as described

above, Adobe Photoshop 5.5 explicitly anticipates a method “wherein parameter input step (b) further enables selecting one of said objects, and inputting the color selection for the selected object; and the data processing step (c) converts a color in the selected object to said predefined color according to said color selection parameter.” This method of utilizing built in Photoshop functions not only anticipates the pending method as disclosed by the applicant in claim 15 but also the logo generating system as disclosed by claim 40.

Regarding claim 16, document 1_14_1_1.html discloses a method for selecting a specific layer (or “object”, as the applicant has defined), while document 1_21_11_1.html discloses a method for creating a grey scale image, selecting a duotone color, and replacing an intensity or color of the greyscale image with the said color. These methods have been clearly described in earlier rejections of this office action. Performing a duotone conversion on a single layer can be achieved by performing the two aforementioned methods in series.

With regards to claims 17 and 41, document 1_21_11_1.html in reference U gives the following method steps as stated earlier: “1. Convert the image to grayscale by choosing Image > Mode > Grayscale. Only 8-bit grayscale images can be converted to duotones.

2. Choose Image > Mode > Duotone.

3. In the Duotone Options dialog box, select Preview to view the effects of the duotone settings on the image.
4. Select Monotone, Duotone, Tritone, or Quadtone for Type.
5. To specify ink colors, click the color box (the solid square) for an ink. Then use the color picker or the Custom Colors dialog box to select an ink.

Therefore the Duotone conversion process as described by Adobe Systems "enables inputting a second color selection parameter for gray scale images" because all images to be converted into duotones via the standard Photoshop package are inherently greyscale images. This method of utilizing built in Photoshop functions not only anticipates the pending method as disclosed by the applicant in claim 17 but also the logo generating system as disclosed by claim 41.

In regards to claim 18, Adobe Photoshop document 1_5_4_0.html discloses a method for scanning an image, thereby satisfying step (a1), "capturing at least one of said objects." Document 1_2_1_0.html states "with its comprehensive set of retouching, painting, drawing, and Web tools, Photoshop helps you complete any image-editing task efficiently." Therefore Adobe Photoshop possesses "a step for enabling the editing of the captured object." Finally, the document 1_20_1_0.html discloses methods and steps for saving images, thereby meeting the requirement (a3) "a step for storing the edited object as said source data."

With regards to claim 19, document 1_9_5_1.html in reference U discloses a method using Adobe Photoshop 5.5 functionality to “move a selection or a layer.” This qualifies as changing the size of the captured object. Document 1_5_3_0.html discloses a method for “changing image size and resolution.” Therefore, “edit enabling step (a2) enables the changing of at least one of the size and position of the captured object.”

In regards to claim 20, document 1_20_3_2.html states the Photoshop format (PSD) in version 5.0 “introduced layer effects... color samplers, spot channels, and embedded ICC profiles.” Thus at the time of invention the PSD format was capable of storing files with multiple objects and applying a different effect to each layer, the transform in question being the “replace color” operation as disclosed in the rejection of claim 1. Therefore, the saving step of Adobe Photoshop 5.5 “stores a plurality of edited objects as said source data, such that the parameter input step (b) enables inputting a separate one of said color selection parameters independently for each object.”

With regards to claim 21, limitation (a), the “File>Open” or “File>Import” menus and functions open or scan an image file of various file formats known in the industry, these images contain intensity and spatial data to represent visual symbols, pictures, or text. Photoshop 5.5 is also capable of displaying and processing various color spaces, including RGB and CMYK. Therefore, the limitation “obtaining source data including at

least one of an image, object, a graphic object, and a text object, said source having at least two colors" is met.

With regards to claim 21, limitation (b), "a parameter input step for enabling the inputting of parameters for processing said source data, said parameters including a color selection parameter for converting color in said source data to a predefined color," Adobe Systems discloses in reference U, document 1_8_14_0.html, a series of steps including "Open replace color dialog (Image>Adjustments>Replace Color...)." This qualifies as "a parameter input step for enabling the inputting of parameters." Steps 3 and 4 of the disclosed method instruct the user to "click in the image or in the preview box to select areas (colors) exposed by the mask. Adjust the tolerance of the mask by dragging the Fuzziness slider or entering a value. This controls the degree to which related colors are included in the selection." Thus this parameter qualifies as a "color selection parameter." Regarding the actual color replacement, step 5 of the described method instructs the user to "drag the hue, saturation, and lightness sliders (or enter values in the text boxes) to change the color of the selected areas."

With regards to claim 21, limitation (c), the "first data processing step for processing said source data according to said input parameters" occurs real-time through the processor of the host machine on which the Photoshop application is running. This is well known in the art and further discussion requires delving into Application to Operating System to Hardware interactions, a topic well beyond the scope of this office action.

Regarding claim 21, limitations (h), (i), and (j), examiner reminds the applicant that Adobe Systems Photoshop 5.5 is a near real-time image processing and editing application, meaning the image is continually displayed until the user makes a change, either by using a specific drawing tool or by changing the parameters of the image through effects functions; the results of these changes are displayed immediately as they occur so that the process of taking in parameters, processing the image, and re-displaying the processed image occurs as close to real-time as the graphics processor allows. Therefore the limitations of the method having a "first displaying step," a "second data processing step," and a "second display step," are easily met by a Photoshop user making two changes to the image sequentially.

With regards to claim 22, limitation (a), the "File>Open" or "File>Import" menus and functions open or scan an image file of various file formats known in the industry, these images contain intensity and spatial data to represent visual symbols, pictures, or text. Photoshop 5.5 is also capable of displaying and processing various color spaces, including RGB and CMYK. Therefore, the limitation "obtaining source data including at least one of an image, object, a graphic object, and a text object, said source having at least two colors" is met.

With regards to claim 22, limitation (b), "a parameter input step for enabling the inputting of parameters for processing said source data, said parameters including a color selection parameter for converting color in said source data to a predefined color," Adobe Systems discloses in reference U, document 1_8_14_0.html, a series of steps

including "Open replace color dialog (Image>Adjustments>Replace Color...)." This qualifies as "a parameter input step for enabling the inputting of parameters." Steps 3 and 4 of the disclosed method instruct the user to "click in the image or in the preview box to select areas (colors) exposed by the mask. Adjust the tolerance of the mask by dragging the Fuzziness slider of entering a value. This controls the degree to which related colors are included in the selection." Thus this parameter qualifies as a "color selection parameter." Regarding the actual color replacement, step 5 of the described method instructs the user to "drag the hue, saturation, and lightness sliders (or enter values in the text boxes) to change the color of the selected areas."

With regards to claim 22, limitation (c), the "first data processing step for processing said source data according to said input parameters" occurs real-time through the processor of the host machine on which the Photoshop application is running. This is well known in the art and further discussion requires delving into Application to Operating System to Hardware interactions, a topic well beyond the scope of this office action.

Regarding claim 22, limitation (e), a "step for displaying a confirmation image of the processed source data processed in step (c)," the examiner reiterates that the Adobe Systems Photoshop is a real-time imaging program, thus the modified image after the processing qualifies as a "confirmation image."

Regarding limitation (f), because of the all-encompassing scope of the operations which can be performed using Photoshop, there is not a save dialog immediately after each operation. However, Photoshop will not allow a user to close the image or the

program without opening the “save” dialog box if an image has modifications which have not been saved. Therefore, this save dialog box qualifies as “a step for confirming whether to save the processed source data.”

Finally, with regards to limitation (g), because Photoshop is designed to handle a plethora of image related tasks, after closing the image and confirming not to save in step (f), Adobe Photoshop requires steps (a), (b), (c), (e), and (f) to be repeated in order to utilize the same image and replace a color in said image. However, since the Photoshop operation flow includes (b), (c), and (e), the image editing system as published by Adobe Systems meets the recited claim limitation (g), “a step for saving the processed source data processed in step (c) when it is confirmed in step (f) to save the processed source data, and repeating steps (b), (c), (e), and (f) when it is not confirmed in step (f) to save the processed source data.” The approach taken by Adobe Systems is actually superior to the logical flow presented by the application, since in the Adobe system there exists a way to exit the program after deciding not to save modifications, whereas in the applicant’s claimed system, the user is stuck in an endless loop of editing the image until he or she confirms the save.

Regarding claim 23, the Image>Adjust>Replace Color mode opens a dialog box which has a reduced-size image preview window embodied within. By clicking the “image” box on the preview window, the preview window shows a smaller picture of the source data, whereas clicking the “selection” box shows the selected color. By using the “image” option on the preview window, the user is able to see changes both in the

preview window and on the actual image in real-time. Therefore this preview window qualifies as "confirmation image display step (e) display[ing] a reduced confirmation image, wherein said reduced confirmation image is obtained by reducing said source data to a specific size and processing the resultant."

With regards to 24, document 1_21_11_1.html in reference U gives the following method steps as stated earlier: "1. Convert the image to grayscale by choosing Image > Mode > Grayscale. Only 8-bit grayscale images can be converted to duotones.

6. Choose Image > Mode > Duotone.
7. In the Duotone Options dialog box, select Preview to view the effects of the duotone settings on the image.
8. Select Monotone, Duotone, Tritone, or Quadtone for Type.
9. To specify ink colors, click the color box (the solid square) for an ink. Then use the color picker or the Custom Colors dialog box to select an ink."

Therefore the Duotone conversion process as described by Adobe Systems "enables inputting a second color selection parameter for gray scale images" because all images to be converted into duotones via the standard Photoshop package are inherently greyscale images. Additionally, after assigning the color to a greyscale intensity, the real-time results of this operation are displayed on the original image window, thus qualifying as "displaying a confirmation image step (e) displays said gray scale image using said second color selection parameter."

With regards to claim 25, document 1_20_1_0.html in reference U discloses several formats to save files in, however document 1_20_3_2.html states “Photoshop format (PSD) is the default file format and the only format that supports all Photoshop features.” Since a PSD file contains all the necessary components of a logo data file, i.e., layers/object handling, a PSD file qualifies as a “logo data file.”

In regards to claim 26, as the examiner has equated a PSD file to a “logo data file” and further established that a PSD file in the context of the present invention may contain multiple individually editable layers, it is obvious to those of normal skill in the art that “said objects (layers) are separately editable when said logo data file is reloaded.”

Regarding claim 27, it is well known in the art that the majority of laser and ink jet printers possess their own internal volatile or nonvolatile memory for storing print data. This enables the printer to store various documents from singular or plurality of connected host computers in a “print queue.” The Print function from Adobe Photoshop sends print data to a printer communicably attached to the host pc selected by the user. Therefore, the print step “sends the processed source data to a connected printer to undergo one of a printing operation by said printer and a storage operation within said printer.”

In regards to claims 28 and 29, Adobe Photoshop 7.0 and its predecessors were all computer applications stored on computer readable medium; the medium has been traditionally a CD-ROM. Therefore both these storage claims are explicitly anticipated by Adobe Systems.

In regards to claim 32, document 1_20_3_2.html states the Photoshop format (PSD) in version 5.0 “introduced layer effects... color samplers, spot channels, and embedded ICC profiles.” Thus at the time of invention the PSD format was capable of storing files with multiple objects and applying a different effect to each layer, the transform in question being the “replace color” operation as disclosed in the rejection of claim 1. Therefore, the “source data” in the form of a saved PSD file “contains a combination of said objects, each independently editable.”

With regards to claim 42, requiring the selected color to be “definable across a gray scale; and the data processor converts said source data according to the brightness of said source data, and assigns the color specified by said color selection parameter to the resultant gray scale image,” examiner once again cites document 1_21_11_1.html in reference U, which gives the following method steps as stated earlier: “1. Convert the image to grayscale by choosing Image > Mode > Grayscale. Only 8-bit grayscale images can be converted to duotones.

10. Choose Image > Mode > Duotone.

11. In the Duotone Options dialog box, select Preview to view the effects of the duotone settings on the image.
12. Select Monotone, Duotone, Tritone, or Quadtone for Type.
13. To specify ink colors, click the color box (the solid square) for an ink. Then use the color picker or the Custom Colors dialog box to select an ink.

Therefore the Duotone conversion process as described by Adobe Systems allows for the selected color to be "definable across a gray scale" and the processor of the host PC replaces the grayscale image with the selected color.

With regards to claim 43, the entire "logo-generating system" is expressly anticipated through a fraction of the functionality available in the Adobe Systems Photoshop 5.5 program. Due to the length and redundancy of this office action, examiner requests the applicant review aforementioned rejections to find the appropriate document in reference U, or simply to verify the steps stated herein by obtaining a copy of the Photoshop application.

Limitation a is met by the import, open, and scan/import from TWAIN commands within Photoshop, an existing image may be scanned or opened from the application and placed within its own layer upon capturing the data; this data is generally captured and displayed in the RGB or CMYK color spaces. Therefore the system possesses "a source capturing means for obtaining the source data... source data having at least two colors."

Limitation b is met by the inherent fact that a “source data display” is a necessary component for the functionality of Adobe Photoshop, as the monitor is generally required for a computer to have any functionality. This is a replication of the recited rejection for Claim 30, limitation 2.

Limitation 3, requiring “a parameter input means … including a color selection parameter for converting a color in said source data to a specific color as specified by said color selection parameter.” This limitation is met by the Replace Color function, wherein the eyedropper tool selects the color to be replaced and the hue/saturation/brightness sliders select the color which will replace the aforementioned color to be replaced.

Limitation 4 is simply the central processing unit and/or graphics processor card of the host machine on which Photoshop is running, therefore the system possesses “a data processor for processing said source data according to said parameters.”

The “logo image display” as claimed by limitation 5 is simply the display or monitor attached to the graphics interface of the machine running the Photoshop application. Because changes occur immediately after inputting parameters in Photoshop, the real-time nature of the program intrinsically guarantees that the “processed image of said source data” is displayed to the user.

With regards to claim 44, help document 1_5_3_0.html in reference U states “in Photoshop the Image size command lets you adjust the pixel dimensions, print

dimensions, and resolution of an image.” This function is available through Image>Image Size and thus explicitly anticipates the stated claim 44, “an image reduction means for reducing said source data to a target size.” The resizing command is processed as soon as the parameters are input, thus the “source data display displays the reduced source data by said image reduction means.” Finally, the user is then presented with a host of data processing options, one of which may be the color replacement process as stated in claim 2, to be carried out by the host PC’s CPU on the resized image. Therefore the final limitation, “wherein said data processor processes the source data reduced by said image reduction means for display on said logo image display.”

Regarding claim 45, because Photoshop is a real-time image processing application, the image is continually displayed until the user makes a change, either by using a specific drawing tool or by changing the parameters of the image through effects functions; the results of these changes are displayed immediately as they occur so that the process of taking in parameters, processing the image, and re-displaying the processed image occurs as close to real-time as the graphics processor allows. Therefore the “logo image display continually displays the processed image of said source data until a parameter input through said parameter input means is changed and said data processor updates the processed image of said source data in accordance to the changed parameter, and said logo image display then displays the resultant newly re-processed image.”

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Adobe Systems in view of Goshima (US-PAT 4204728).

Adobe Systems, Inc discloses an application, Adobe Photoshop 5.5, exhaustively described in previous claim rejections of this office action. It contains functions which capture image data and replace the color data with a duotone by selecting two colors to replace a given color or intensity in the image.

Adobe Systems does not expressly disclose that the color selection step (b2) when selecting a duotone "prohibits selection of a color not among said printable colors."

Goshima discloses a copy machine with built in functionality to replace a given color designated by user input with another color designated by a second user input. As disclosed in column 2, lines 24-34, "it is another object of the present invention to provide an apparatus which indicates the designated color, when a designation is made for changing not only one particular color in the image original, but also a plurality of colors into desired ones (for example, red to blue, and yellow to green), and if this designation is possible by the combination of the color-separation filter and the

developer, and also indicates to what color the original image colors other than that designated can be converted, and further indicates if such designation is not possible." Therefore the user is informed if color which is determined to be impossible to be converted into is selected, and the selection is prohibited.

8. Claims 7, 8, 9, 10, 11, 12, 13, 36, 37, 38, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adobe Systems in view of Goshima (US-PAT 4204728) further in view of Power (US-PAT 5982924).

In regards to claims 7, 10, and 36, Adobe Systems, Inc discloses an application, Adobe Photoshop 5.5, exhaustively described in previous claim rejections of this office action. It contains functions which capture image data and replace the color data with a duotone by selecting two colors to replace a given color or intensity in the image. The Photoshop duotone process allows the selection of up to four coloring materials such as ink or toners for coloring the image.

Adobe Systems, Inc. does not expressly state the color of the paper itself may be used as a third color.

Power discloses a method wherein "a full color process image that can be printed with cyan, magenta, yellow, and black inks is produced as a duotone image using only two colors of ink." Powers states in column 1 lines 43-50 "a duotone print is really a combination of four colors: the paper color alone, the colors of each of the inks individually, and the color of the two inks superimposed on each other. These four

colors define a bilinear surface in color space that may span a broad range of the full color gamut."

Power and Adobe Systems Photoshop are combinable because they are both in the field of image processing and printing, specifically printing full color images using duotones.

At the time of invention, it would have been obvious to one of ordinary skill in the art to combine in Adobe Systems Photoshop a method of reproducing full color images using duotones in which the color of the paper may be used as a third coloring material as taught by Power.

The motivation behind this modification would be to cut down the cost of printing for two color printers and increase the color gamut of the two color printer by implementing the color paper as a usable coloring material.

Therefore, it would have been obvious to combine Adobe Systems Photoshop with Power to obtain the method as disclosed by claim 7 as well as the system as disclosed by claim 36.

Regarding claim 10, examiner asserts claim 10 is simply claim 7 restated, and is thus rejected in turn with claim 7.

Please note: the examiner has included the Goshima modification as disclosed in the previous rejection of claim 6 only to ensure that the apparatus prohibits the selection of colors which are not either the coloring material or the color of the paper. The complexity of this rejection increased exponentially by the applicant's method of combining the material of claims 6 and 7, regarding a method of generating logo data,

into a single claim 36 when regarding the system utilizing this method. This lack of parallelism is obvious to the examiner as a method of including an esoteric feature into a claim upon which several features depend, thereby requiring the examiner to incorporate more prior art into and thus weakening the rejection. Examiner submits this paragraph to serve as an official record of this technique.

With regards to claims 8, 11, and 37, Adobe Systems, Inc discloses an application, Adobe Photoshop 5.5, exhaustively described in previous claim rejections of this office action. It contains functions which capture image data and replace the color data with a duotone by selecting two colors to replace a given color or intensity in the image. The Photoshop duotone process allows the selection of up to four coloring materials such as ink or toners for coloring the image.

Although Photoshop's Duotone mode allows for setting up halftone screens, it does not expressly state that the color of the paper itself can be used as a halftone to replicate other colors.

Power states in column 1 lines 43-50 "a duotone print is really a combination of four colors: the paper color alone, the colors of each of the inks individually, and the color of the two inks superimposed on each other. These four colors define a bilinear surface in color space that may span a broad range of the full color gamut." Additionally, Power states in paragraph (40), colors from the full color image that are transformed by the luminance and ink-spread mapping process described above are guaranteed to project onto the duotone gamut in the P direction. The projection point

corresponding to a color can be determined analytically by solving for the intersection of a line and the bilinear surface defined by the Neugebauer equation. As shown below, a solution can be derived for $\alpha_{\text{sub.1}}$ and $\alpha_{\text{sub.2}}$, the amounts of the two inks required to produce the projected color in the duotone image. Thus, in addition to computing the desired color in the duotone image that corresponds to a color in the full colored image, the projection step determines the halftone separations required for the duotone printing process. FIG. 7 illustrates the result of projecting a set of colors for a full color image onto a duotone gamut." Therefore, "printable colors include halftones that can be created by combining the material colors." Because the system of Adobe Photoshop/ Goshima/ and Power allows for the selection of available printing colors, this selection qualifies as "specif[ying] said halftones" as required by the final limitation of the system claim 37.

Power and Adobe Systems Photoshop are combinable because they are both in the field of image processing and printing, specifically printing full color images using duotones.

At the time of invention, it would have been obvious to one of ordinary skill in the art to combine in Adobe Systems Photoshop a method of reproducing full color images using duotones in which the two coloring materials, the color of the paper, and all halftones of the three as taught by Power.

The motivation behind this modification would be to cut down the cost of printing for two color printers and increase the color gamut of the two-color printer by

implementing the color paper as well as all ink/toner and paper halftones as usable coloring materials.

Therefore, it would have been obvious to combine Adobe Systems Photoshop with Power to obtain the method as disclosed by claim 8 as well as the system as disclosed by claim 37.

With regards to claim 11, examiner asserts that claim 11 simply the redundant addition of claims 7 and 8, and are thus expressly anticipated by the aforementioned Photoshop/Goshima/Power combination.

With regards to dependent claims 9 and 38, halftones, as well known in the art of printing, "are expressed with combinations of the printable colors each assigned to each dot of a pixel unit where each pixel unit consists of a plurality of adjacent dots." Therefore the definition of halftone is inherent and dependent claims 9 and 38 are expressly anticipated by any printing system, method, or apparatus which uses halftoning for printing.

In regards to claims 12, 13, and 39, Powers states in paragraph (78) "Adding a black separation to duotone printing offers a further benefit: for full color images with a wide range of luminance values, the two-colored inks no longer need to be chosen so that their combination is close to black. Instead, the two ink colors can be chosen to reproduce the full color image's hues, while the black ink permits fine gradations in luminance to be achieved in the duotone image." Therefore, the black ink is used to

create achromatic, or colorless i.e., black colors from the source data, and the other inks are used to create chromic, or colored i.e., non-black colors from the source data. Therefore the method as disclosed by claim 12 as well as the system as disclosed by claim 39 are unpatentable over the aforementioned Photoshop/Goshima/Power combination. Additionally, the use of halftones for this identical conversion process is disclosed by Power in the recited patent, therefore claim 13, "wherein said color selection step (b2) the achromatic parts of said source data are converted to halftones formed from said first color, and the chromatic parts of said source data are converted to halftones formed from said second color," is anticipated by the Adobe/Goshima/Power combination as thoroughly disclosed above.

Conclusion

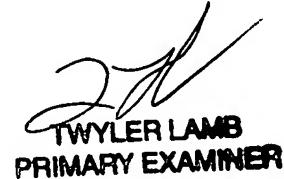
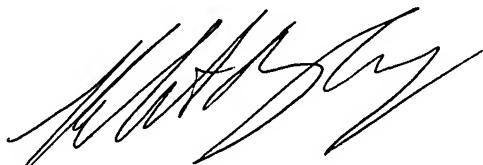
9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. It is of special notice that PowerTone, a plug in for Adobe Photoshop by Intense Software, now CreoSciTex Software, was released in 1999 with Adobe Photoshop 5.5. PowerTone performs the exact function as the application, that is, converting an RGB or CMYK image into an image printable by two colors. Additionally, whereas the application uses a crude saturated substitution or a simple halftoning process, PowerTone uses fairly complex algorithms like those as disclosed by Power to achieve an extremely broad gamut of color using only two colors; therefore it is a much more advanced and robust solution to problem posed by the application. The only convenient difference is that PowerTone does not allow the user to select the

color of the print medium and use the said print medium as a color or halftone. However, examiner asserts that this feature is essentially useless, because, as any individual of ordinary skill in the art knows, a black background paper will appear black with almost all dither or halftone patterns not approaching a purely saturated color pattern. The same is true of various primary colored papers. None the less, obtaining this plug in or perusing the operation manuals as cited in the PTO-892 should give an adequate demonstration of the unpatentability of this application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert N. Kang whose telephone number is (571) 272-0593. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Coles can be reached on (571)272-7402. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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TWYLER LAMB
PRIMARY EXAMINER